These vectors are provided with a glycerol stock of bacterial strain JM109.

Description: The pGEM®-3Zf(+) and pGEM®-3Zf(–) Vectors[a] are derived from the pGEM®-3Z Vector and contain the origin of replication of the filamentous phage f1. These plasmids serve as standard cloning vectors, as templates for in vitro transcription, and can be used for the production of circular ssDNA.

The pGEM®-3Zf(+) and pGEM®-3Zf(–) Vectors are identical except for the orientation of the f1 origin.

Feature(s)

- **Blue/White Screening:** Allows the easy identification of recombinant clones.
- **Versatile:** These vectors can be used for standard cloning, single-stranded DNA production and in vitro transcription from SP6 and T7 RNA polymerase promoters flanking the multiple cloning region.
- **Convenient:** Multiple cloning site provides a selection of restriction sites for cloning.

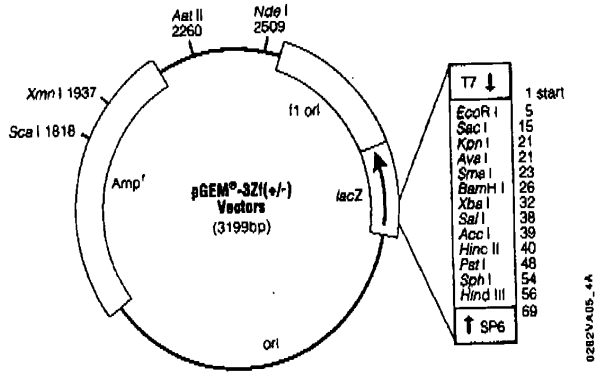
Storage Conditions: Store vector at –20°C or –70°C and host strain at –70°C.

GenBank®/EMBL Accession Number: (+) X65306; (-) X65307.

Related Products	Pg.
Riboprobe® Transcription Systems	5.3
Wizard® DNA Purification Systems	2.4
JM109 Competent Cells	13.11

Additional Information Available	Lit.#
pGEM®-3Zf(+) Sequence & Map	TB086
pGEM®-3Zf(–) Sequence & Map	TB045

[a]U.S. Pat. No. 4,766,072.



For detailed vector maps, please visit our web site at www.promega.com

These vectors are provided with a glycerol stock of

Description: The pGEM®-5Zf(+) and pGEM®-5Zf(–) V pGEM®-3Zf(+) Vector[a] and contain the origin of replica f1. These plasmids serve as standard cloning vectors, a transcription, and can be used for the production of circ contains T7 and SP6 RNA polymerase promoters flanki within the α-peptide coding region of β-galactosidase (the α-peptide allows recombinant clones to be directly on indicator plates. The multiple cloning region contain *Apa* I, *Aat* II, *Sph* I, *Nco* I, *Sac* II, *EcoR* V, *Spe* I, *Not* I, *P* and *Nsi* I. This arrangement is designed specifically for tions with Promega's Erase-a-Base® System. The pGEM Vectors are identical except for the orientation of the f1 o

Feature(s)

- **Blue/White Screening:** Allows the easy identi
- **Versatile:** These vectors can be used for stan stranded DNA production and in vitro transcrip polymerase promoters flanking the multiple cl
- **Convenient:** Multiple cloning site provides a for cloning.
- **Unidirectional Deletions:** Restriction sites for use with Promega's Erase-a-Base® System

Storage Conditions: Store vector at –20°C or –70

GenBank®/EMBL Accession Number: (+) X65

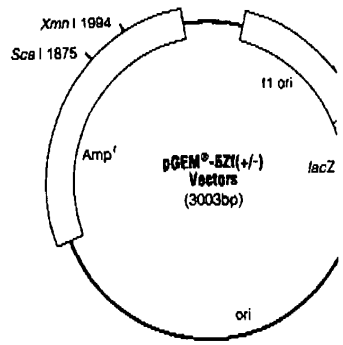
Reference(s)

1. Yanisch-Perron, C., Vieira, J. and Messing, J.

Related Products
Riboprobe® Transcription Systems
Wizard® DNA Purification Systems
Erase-a-Base® System
pGEM®-T Vectors Systems
JM109 Competent Cells

Additional Information Available
pGEM®-5Zf(+) Sequence & Map
pGEM®-5Zf(–) Sequence & Map

[a]U.S. Pat. No. 4,766,072.



For detailed vector maps, please visit our web s

To: Bao-Qun Li
Tel: 703-305-1695
Fax: 703-746-7454

TB 086 (+)
TB 045 (–)

Received from < 3018467034 > at 10/9/03 11:05:56 AM [Eastern Daylight Time]

The pGEM®-3Z Vector is provided with a glycerol stock of bacterial strain JM109.

Description: The pGEM®-3Z Vector[a] is intended for use as a standard cloning vector, as well as for the highly efficient synthesis of RNA in vitro. The vector carries the *lacZ* α-peptide and the multiple cloning region arrangement from pUC18 (1). In addition, the vector contains both the SP6 and T7 RNA polymerase promoters flanking the multiple cloning region.

The pGEM®-3Z and pGEM®-4Z Vectors are identical except for the orientation of the SP6 and T7 promoters.

Feature(s)

- **Blue/White Screening:** Allows the easy identification of recombinant clones.
- **Versatile:** This vector can be used for standard cloning and in vitro transcription from SP6 and T7 RNA polymerase promoters flanking the multiple cloning region.
- **Convenient:** Multiple cloning site provides a selection of restriction sites for cloning.

Storage Conditions: Store vector at –20°C or –70°C and host strain at –70°C.

GenBank®/EMBL Accession Number: X65304.

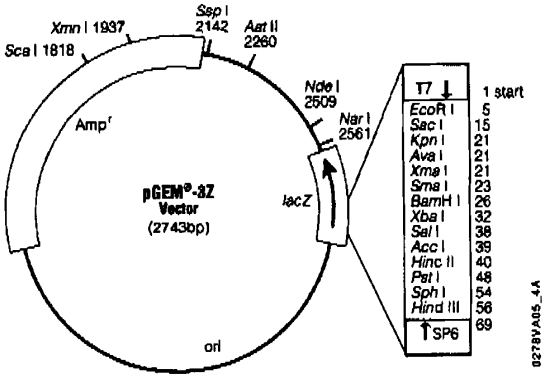
Reference(s)

1. Yanisch-Perron, C. *et al.* (1985) *Gene* **33**, 103.

Related Products	Pg.
Riboprobe® Transcription Systems	5.3
Wizard® DNA Purification Systems	2.4
JM109 Competent Cells	13.11

Additional Information Available	Lit.#
Sequence & Map	TB033

[a]U.S. Pat. No. 4,766,072.



The pGEM®-4Z Vector is provided with a glyc
JM109.

Description: The pGEM®-4Z Vector[a] is inte
cloning vector, as well as for the highly efficier
vector carries the *lacZ* α-peptide and the multi
from pUC18 (1) allowing recombinants to be s
screening. In addition, the vector contains bot
polymerase promoters flanking the multiple cl

The pGEM®-3Z and pGEM®-4Z Vectors are id
of the SP6 and T7 promoters.

Feature(s)

- **Blue/White Screening:** Allows the eas
clones.
- **Versatile:** This vector can be used for st
transcription from SP6 and T7 RNA polyn
multiple cloning region.
- **Convenient:** Multiple cloning site provi
for cloning.

Storage Conditions: Store vector at –20°C o

GenBank®/EMBL Accession Number: X6

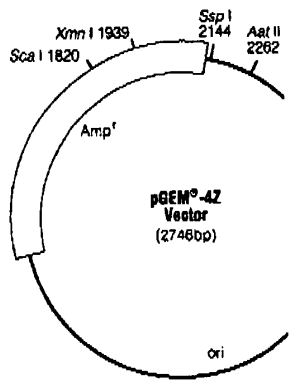
Reference(s)

1. Yanisch-Perron, C. *et al.* (1985) *Gene* **33**

Related Products
Riboprobe® Transcription Systems
Wizard® DNA Purification Systems
JM109 Competent Cells

Additional Information Available
Sequence & Map

[a]U.S. Pat. No. 4,766,072.



For detailed vector maps, please visit our we

Received from < 3018467034 > at 10/9/03 11:05:56 AM [Eastern Daylight Time]

P2271
pGEM

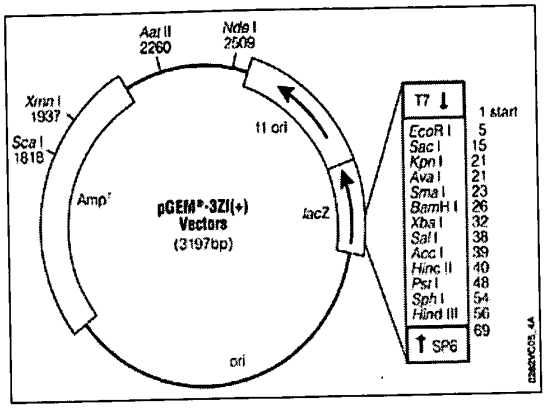


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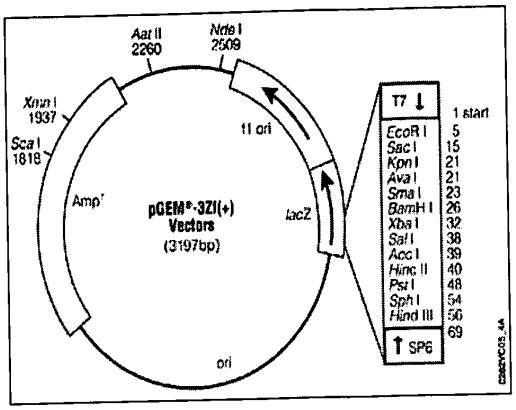
Figure Display Window

Close Figure Window
Print Page

P2271
pGEM



Web Figure Number: 0282vc
Figure Display Window

pGEM®*-3Zf(+) vector sequence

This vector can be obtained from Promega Corporation, Madison WI.
Call one of the following numbers for order or technical information.

Order or Technical 1-800-356-9526
Outside U.S. 608-274-4330

pGEM®-3Zf(+) vector sequence reference points:

Base pairs	3197
T7 RNA transcription initiation site	1
SP6 RNA transcription initiation site	69
T7 RNA polymerase promoter (-17 to +3)	3181-3
SP6 RNA polymerase promoter (-17 to +3)	67-86
multiple cloning region	5-61
phage f1 region	2562-3017
lacZ start codon	108
lac operon sequences	3018-3178; 94-323
lac operator	128-144
beta-lactamase (Ampr) coding region	1265-2125
binding site of pUC/M13 Forward Sequencing Primer	3138-3154
binding site of pUC/M13 Reverse Sequencing Primer	104-120

pGEM is a registered trademark of Promega Corporation, Madison, WI.

*U.S. Pat. No. 4,766,072 has been issued to Promega Corporation for transcription ve different bacteriophage RNA polymerase promoter sequences separated by a series of u sites into which foreign DNA can be inserted.

```
1     GGGCGAATTC GAGCTCGGTA CCCGGGGATC CTCTAGAGTC GACCTGCAGG

51    CATGCAAGCT TGAGTATTCT ATAGTGTCAC CTAAATAGCT TGGCGTAATC

101   ATGGTCATAG CTGTTTCCTG TGTGAAATTG TTATCCGCTC ACAATTCCAC

151   ACAACATACG AGCCGGAAGC ATAAAGTGTA AAGCCTGGGG TGCCTAATGA

201   GTGAGCTAAC TCACATTAAT TGCGTTGCGC TCACTGCCCG CTTTCCAGTC

251   GGGAAACCTG TCGTGCCAGC TGCATTAATG AATCGGCCAA CGCGCGGGGA

301   GAGGCGGTTT GCGTATTGGG CGCTCTTCCG CTTCCTCGCT CACTGACTCG

351   CTGCGCTCGG TCGTTCGGCT GCGGCGAGCG GTATCAGCTC ACTCAAAGGC

401   GGTAATACGG TTATCCACAG AATCAGGGGA TAACGCAGGA AAGAACATGT

451   GAGCAAAAGG CCAGCAAAAG GCCAGGAACC GTAAAAAGGC CGCGTTGCTG

501   GCGTTTTTCC ATAGGCTCCG CCCCCCTGAC GAGCATCACA AAAATCGACG

551   CTCAAGTCAG AGGTGGCGAA ACCCGACAGG ACTATAAAGA TACCAGGCGT

601   TTCCCCCTGG AAGCTCCCTC GTGCGCTCTC CTGTTCCGAC CCTGCCGCTT

651   ACCGGATACC TGTCCGCCTT TCTCCCTTCG GGAAGCGTGG CGCTTTCTCA

701   TAGCTCACGC TGTAGGTATC TCAGTTCGGT GTAGGTCGTT CGCTCCAAGC

751   TGGGCTGTGT GCACGAACCC CCCGTTCAGC CCGACCGCTG CGCCTTATCC

801   GGTAACTATC GTCTTGAGTC CAACCCGGTA AGACACGACT TATCGCCACT
```

```
851   GGCAGCAGCC ACTGGTAACA GGATTAGCAG AGCGAGGTAT GTAGGCGGTG
901   CTACAGAGTT CTTGAAGTGG TGGCCTAACT ACGGCTACAC TAGAAGAACA
951   GTATTTGGTA TCTGCGCTCT GCTGAAGCCA GTTACCTTCG GAAAAAGAGT
1001  TGGTAGCTCT TGATCCGGCA AACAAACCAC CGCTGGTAGC GGTGGTTTTT
1051  TTGTTTGCAA GCAGCAGATT ACGCGCAGAA AAAAAGGATC TCAAGAAGAT
1101  CCTTTGATCT TTTCTACGGG GTCTGACGCT CAGTGGAACG AAAACTCACG
1151  TTAAGGGATT TTGGTCATGA GATTATCAAA AAGGATCTTC ACCTAGATCC
1201  TTTTAAATTA AAAATGAAGT TTTAAATCAA TCTAAAGTAT ATATGAGTAA
1251  ACTTGGTCTG ACAGTTACCA ATGCTTAATC AGTGAGGCAC CTATCTCAGC
1301  GATCTGTCTA TTTCGTTCAT CCATAGTTGC CTGACTCCCC GTCGTGTAGA
1351  TAACTACGAT ACGGGAGGGC TTACCATCTG GCCCCAGTGC TGCAATGATA
1401  CCGCGAGACC CACGCTCACC GGCTCCAGAT TTATCAGCAA TAAACCAGCC
1451  AGCCGGAAGG GCCGAGCGCA GAAGTGGTCC TGCAACTTTA TCCGCCTCCA
1501  TCCAGTCTAT TAATTGTTGC CGGGAAGCTA GAGTAAGTAG TTCGCCAGTT
1551  AATAGTTTGC GCAACGTTGT TGCCATTGCT ACAGGCATCG TGGTGTCACG
1601  CTCGTCGTTT GGTATGGCTT CATTCAGCTC CGGTTCCCAA CGATCAAGGC
1651  GAGTTACATG ATCCCCCATG TTGTGCAAAA AAGCGGTTAG CTCCTTCGGT
1701  CCTCCGATCG TTGTCAGAAG TAAGTTGGCC GCAGTGTTAT CACTCATGGT
1751  TATGGCAGCA CTGCATAATT CTCTTACTGT CATGCCATCC GTAAGATGCT
1801  TTTCTGTGAC TGGTGAGTAC TCAACCAAGT CATTCTGAGA ATAGTGTATG
1851  CGGCGACCGA GTTGCTCTTG CCCGGCGTCA ATACGGGATA ATACCGCGCC
1901  ACATAGCAGA ACTTTAAAAG TGCTCATCAT TGGAAAACGT TCTTCGGGGC
1951  GAAAACTCTC AAGGATCTTA CCGCTGTTGA GATCCAGTTC GATGTAACCC
2001  ACTCGTGCAC CCAACTGATC TTCAGCATCT TTTACTTTCA CCAGCGTTTC
2051  TGGGTGAGCA AAAACAGGAA GGCAAAATGC CGCAAAAAAG GGAATAAGGG
2101  CGACACGGAA ATGTTGAATA CTCATACTCT TCCTTTTTCA ATATTATTGA
2151  AGCATTTATC AGGGTTATTG TCTCATGAGC GGATACATAT TTGAATGTAT
2201  TTAGAAAAAT AAACAAATAG GGGTTCCGCG CACATTTCCC CGAAAAGTGC
2251  CACCTGACGT CTAAGAAACC ATTATTATCA TGACATTAAC CTATAAAAAT
2301  AGGCGTATCA CGAGGCCCTT TCGTCTCGCG CGTTTCGGTG ATGACGGTGA
2351  AAACCTCTGA CACATGCAGC TCCCGGAGAC GGTCACAGCT TGTCTGTAAG
2401  CGGATGCCGG GAGCAGACAA GCCCGTCAGG GCGCGTCAGC GGGTGTTGGC
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2451 GGGTGTCGGG GCTGGCTTAA CTATGCGGCA TCAGAGCAGA TTGTACTGAG

2501 AGTGCACCAT ATGCGGTGTG AAATACCGCA CAGATGCGTA AGGAGAAAAT

2551 ACCGCATCAG GAAATTGTAA GCGTTAATAT TTTGTTAAAA TTCGCGTTAA

2601 ATTTTTGTTA AATCAGCTCA TTTTTTAACC AATAGGCCGA AATCGGCAAA

2651 ATCCCTTATA AATCAAAAGA ATAGACCGAG ATAGGGTTGA GTGTTGTTCC

2701 AGTTTGGAAC AAGAGTCCAC TATTAAAGAA CGTGGACTCC AACGTCAAAG

2751 GGCGAAAAAC CGTCTATCAG GGCGATGGCC CACTACGTGA ACCATCACCC

2801 TAATCAAGTT TTTTGGGGTC GAGGTGCCGT AAAGCACTAA ATCGGAACCC

2851 TAAAGGGAGC CCCCGATTTA GAGCTTGACG GGGAAAGCCG GCGAACGTGG

2901 CGAGAAAGGA AGGGAAGAAA GCGAAAGGAG CGGGCGCTAG GGCGCTGGCA

2951 AGTGTAGCGG TCACGCTGCG CGTAACCACC ACACCCGCCG CGCTTAATGC

3001 GCCGCTACAG GGCGCGTCCA TTCGCCATTC AGGCTGCGCA ACTGTTGGGA

3051 AGGGCGATCG GTGCGGGCCT CTTCGCTATT ACGCCAGCTG GCGAAAGGGG

3101 GATGTGCTGC AAGGCGATTA AGTTGGGTAA CGCCAGGGTT TTCCCAGTCA

3151 CGACGTTGTA AAACGACGGC CAGTGAATTG TAATACGACT CACTATA

Sequence and reference points updated 06-Jul-99.

pGEM®*-3Zf(-) Vector Sequence

This vector can be obtained from Promega Corporation, Madison WI.
Call one of the following numbers for order or technical information.

Order or Technical	1-800-356-9526
Outside U.S.	608-274-4330

pGEM®-3Zf(-) Vector sequence reference points:

Base pairs	3197
T7 RNA polymerase transcription initiation site	1
SP6 RNA polymerase transcription initiation site	69
T7 RNA polymerase promoter (-17 to +3)	3181-3
SP6 RNA polymerase promoter (-17 to +3)	67-86
Multiple cloning region	5-61
Phage f1 region	2562-3017
lacZ start codon	108
lac operon sequences	3018-3178; 94-323
beta-lactamase coding region	1265-2125
Binding site of pUC/M13 forward sequencing primer	3138-3154
Binding site of pUC/M13 reverse sequencing primer	104-120

pGEM is a registered trademark of Promega Corporation, Madison, WI.

*U.S. Pat. No. 4,766,072 has been issued to Promega Corporation for transcription vectors having two different bacteriophage RNA polymerase promoter sequences separated by a series of unique restriction sites into which foreign DNA can be inserted.

```
  1  GGGCGAATTC GAGCTCGGTA CCCGGGGATC CTCTAGAGTC GACCTGCAGG

 51  CATGCAAGCT TGAGTATTCT ATAGTGTCAC CTAAATAGCT TGGCGTAATC

101  ATGGTCATAG CTGTTTCCTG TGTGAAATTG TTATCCGCTC ACAATTCCAC

151  ACAACATACG AGCCGGAAGC ATAAAGTGTA AAGCCTGGGG TGCCTAATGA

201  GTGAGCTAAC TCACATTAAT TGCGTTGCGC TCACTGCCCG CTTTCCAGTC

251  GGGAAACCTG TCGTGCCAGC TGCATTAATG AATCGGCCAA CGCGCGGGGA

301  GAGGCGGTTT GCGTATTGGG CGCTCTTCCG CTTCCTCGCT CACTGACTCG

351  CTGCGCTCGG TCGTTCGGCT GCGGCGAGCG GTATCAGCTC ACTCAAAGGC

401  GGTAATACGG TTATCCACAG AATCAGGGGA TAACGCAGGA AAGAACATGT

451  GAGCAAAAGG CCAGCAAAAG GCCAGGAACC GTAAAAAGGC CGCGTTGCTG

501  GCGTTTTTCC ATAGGCTCCG CCCCCCTGAC GAGCATCACA AAAATCGACG

551  CTCAAGTCAG AGGTGGCGAA ACCCGACAGG ACTATAAAGA TACCAGGCGT

601  TTCCCCCTGG AAGCTCCCTC GTGCGCTCTC CTGTTCCGAC CCTGCCGCTT

651  ACCGGATACC TGTCCGCCTT TCTCCCTTCG GGAAGCGTGG CGCTTTCTCA

701  TAGCTCACGC TGTAGGTATC TCAGTTCGGT GTAGGTCGTT CGCTCCAAGC

751  TGGGCTGTGT GCACGAACCC CCCGTTCAGC CCGACCGCTG CGCCTTATCC

801  GGTAACTATC GTCTTGAGTC CAACCCGGTA AGACACGACT TATCGCCACT
```

```
 851  GGCAGCAGCC ACTGGTAACA GGATTAGCAG AGCGAGGTAT GTAGGCGGTG
 901  CTACAGAGTT CTTGAAGTGG TGGCCTAACT ACGGCTACAC TAGAAGAACA
 951  GTATTTGGTA TCTGCGCTCT GCTGAAGCCA GTTACCTTCG GAAAAAGAGT
1001  TGGTAGCTCT TGATCCGGCA AACAAACCAC CGCTGGTAGC GGTGGTTTTT
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1101  CCTTTGATCT TTTCTACGGG GTCTGACGCT CAGTGGAACG AAAACTCACG
1151  TTAAGGGATT TTGGTCATGA GATTATCAAA AAGGATCTTC ACCTAGATCC
1201  TTTTAAATTA AAAATGAAGT TTTAAATCAA TCTAAAGTAT ATATGAGTAA
1251  ACTTGGTCTG ACAGTTACCA ATGCTTAATC AGTGAGGCAC CTATCTCAGC
1301  GATCTGTCTA TTTCGTTCAT CCATAGTTGC CTGACTCCCC GTCGTGTAGA
1351  TAACTACGAT ACGGGAGGGC TTACCATCTG GCCCCAGTGC TGCAATGATA
1401  CCGCGAGACC CACGCTCACC GGCTCCAGAT TTATCAGCAA TAAACCAGCC
1451  AGCCGGAAGG GCCGAGCGCA GAAGTGGTCC TGCAACTTTA TCCGCCTCCA
1501  TCCAGTCTAT TAATTGTTGC CGGGAAGCTA GAGTAAGTAG TTCGCCAGTT
1551  AATAGTTTGC GCAACGTTGT TGCCATTGCT ACAGGCATCG TGGTGTCACG
1601  CTCGTCGTTT GGTATGGCTT CATTCAGCTC CGGTTCCCAA CGATCAAGGC
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1701  CCTCCGATCG TTGTCAGAAG TAAGTTGGCC GCAGTGTTAT CACTCATGGT
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1901  ACATAGCAGA ACTTTAAAAG TGCTCATCAT TGGAAAACGT TCTTCGGGGC
1951  GAAAACTCTC AAGGATCTTA CCGCTGTTGA GATCCAGTTC GATGTAACCC
2001  ACTCGTGCAC CCAACTGATC TTCAGCATCT TTTACTTTCA CCAGCGTTTC
2051  TGGGTGAGCA AAAACAGGAA GGCAAAATGC CGCAAAAAAG GGAATAAGGG
2101  CGACACGGAA ATGTTGAATA CTCATACTCT TCCTTTTTCA ATATTATTGA
2151  AGCATTTATC AGGGTTATTG TCTCATGAGC GGATACATAT TTGAATGTAT
2201  TTAGAAAAAT AAACAAATAG GGGTTCCGCG CACATTTCCC CGAAAAGTGC
2251  CACCTGACGT CTAAGAAACC ATTATTATCA TGACATTAAC CTATAAAAAT
2301  AGGCGTATCA CGAGGCCCTT TCGTCTCGCG CGTTTCGGTG ATGACGGTGA
2351  AAACCTCTGA CACATGCAGC TCCCGGAGAC GGTCACAGCT TGTCTGTAAG
2401  CGGATGCCGG GAGCAGACAA GCCCGTCAGG GCGCGTCAGC GGGTGTTGGC
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3001  ATTAACGCTT ACAATTTCCA TTCGCCATTC AGGCTGCGCA ACTGTTGGGA
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3151  CGACGTTGTA AAACGACGGC CAGTGAATTG TAATACGACT CACTATA
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Vector sequence updated 17-May-00.